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Mineral Industry Surveys

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CHROMIUM IN MAY 1999

Chromite stocks in May increased 16% compared with stocks in April 1999, according to the U.S. Geological Survey.

Included in this Mineral Industry Surveys are U.S. salient chromium statistics, U.S. Government stockpile inventory of chromium materials for May 1999, and U.S. foreign trade data for April 1999.

Update

In July, the Defense National Stockpile Center published Solicitation of Offers DLA-Ferrochromium-002 and Amendment Number 001 to that solicitation. The solicitation describes 57,618 metric tons of high-carbon ferrochromium available for sale that is stored in piles at Charleston, South Carolina. The solicitation contains information about preparation and submission of offers; inspection; payment; removal; shipping; contract administration data; definitions; and submittals. Copies of the Solicitation of Offers DLA-Ferrochromium-002 and Amendment Number 001 may be obtained from: Defense National Stockpile Center, 8725 John J. Kingman Road, Suite 4616 (mail) or Suite 4528 (hand delivered), Fort Belvoir, Virginia 22060-6223, fax no. (703) 767-5541.

The International Chromium Development Association (ICDA) has prepared a brief report entitled *Chromium tanned leather and its environmental impact* that is oriented to the general public. Copies are available upon request while they last. Contact the author of this Mineral Industry Surveys report. The report describes the tanning process and the role of chromium salts used to convert an animal skin to leather, a stable material used for consumer products such as footwear. It also discusses current understanding of the chromium-related health risks of workers and environmental impacts. The report describes the development of clean technologies for the leather industry. The report concludes that chromium tanned leather made using a modern tanning process produces no toxic effect on the consumer (Van den Bossche, Gavend, and Brun, 1997).

Reference Cited

Van den Bossche, Vincent, Gavend, Gerard, and Brun, Marie-Joelle, 1997, Chromium tanned leather and its environmental impact: The Chromium File, no. 4, International Chromium Development Assoc., 6 p.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS 1/

(Metric tons, gross weight)

	1998	1999					
	January-December 2/	February	March	First quarter	April	May	January-April 2/
Production:							
Stainless steel production 3/	1,980,000	(4/)	(4/)	539,000	(4/)	(4/)	539,000 5/
Components of U.S. supply:							
Stainless steel scrap receipts	612,000 r/	52,900	50,900	153,000	44,400	51,500	249,000 6/
Stainless steel scrap consumption	1,040,000	81,400	86,800	248,000	84,100	91,200	423,000 6/
Imports for consumption:							
Chromite ore	358,000	493	44,800	78,600	277	NA	78,900
Chromium ferroalloys:							
High-carbon ferrochromium	363,000	24,000	48,100	144,000	40,100	NA	184,000
Medium-carbon ferrochromium	1,370	--	--	--	--	NA	--
Low-carbon ferrochromium	53,700	4,950	2,930	14,800	1,950	NA	16,800
Ferrochromium silicon	200,000	1,720	1,660	8,980	1,730	NA	10,700
Total ferroalloy imports	618,000	30,700	52,700	168,000	43,800	NA	212,000
Chromium metal 7/	9,510	518	663	1,700	1,150	NA	2,850
Stainless steel	862,000	56,400	90,500	217,000	67,900	NA	285,000
Stainless steel scrap	57,000	3,000	2,000	7,000	2,000	NA	10,000
Distribution of U.S. supply:							
Consumption:							
Chromite ore	269,000	W	W	W	W	W	W
Chromium ferroalloys & metal	314,000	25,600	30,900	84,200	27,900	NA	112,000
Exports:							
Chromite ore	121,000	403	1,600	2,740	16,800	NA	19,500
Chromium ferroalloys:							
High-carbon ferrochromium	4,840	265	414	954	342	NA	1,300
Low-carbon ferrochromium	1,380	61	65	258	82	NA	340
Ferrochromium silicon	386	38	3	125	38	NA	163
Total ferroalloy imports	6,610	364	482	1,340	462	NA	1,800
Chromium metal	1,040	118	55	264	190	NA	455
Stainless steel	206,000	16,200	18,000	49,500	17,200	NA	66,700
Stainless steel scrap	298,000	14,000	25,000	49,000	28,000	NA	76,000
Stocks at end of period:							
Industry:							
Chromite ore	159,000	130,000	145,000	XX	129,000	149,000	XX
Chromium ferroalloys and metal, consumer	16,000	18,100	15,800	XX	20,600	NA	XX
Government stockpile:							
Chromite ore	885,000	885,000	885,000	XX	885,000	885,000	XX
Chromium ferroalloys	974,000	974,000	974,000	XX	974,000	974,000	XX
Chromium metal	7,720	7,721	7,721	XX	7,721	7,721	XX

r/ Revised. NA Not available. W Withheld to avoid disclosing company proprietary data. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes revised data from previous months.

3/ Data on stainless steel production from American Iron and Steel Institute, quarterly production of stainless and heat-resisting raw steel.

4/ Data not reported monthly.

5/ Includes data for January through March; April data were not available at time of publication.

6/ Includes data for January through May.

TABLE 2
U.S. GOVERNMENT STOCKPILE INVENTORY 1/ OF CHROMIUM MATERIALS 2/

(Metric tons)

Period	Chromite ore			Chromium ferroalloys			Chromium metal	
	Chemical	Metal-lurgical	Refractory	High-carbon ferro-chromium	Low-carbon ferro-chromium	Ferro-chromium silicon	Alumino-thermic	Electrolytic
1998:								
May	212,000	525,000	292,000	676,000	280,000	52,200	2,670	5,050
June	211,000	499,000	291,000	676,000	280,000	52,200	2,670	5,050
July	211,000	499,000	291,000	657,000	280,000	52,200	2,670	5,050
August	211,000	499,000	287,000	657,000	280,000	52,200	2,670	5,050
September	211,000	418,000	287,000	660,000	280,000	51,200	2,670	5,050
October	211,000	406,000	287,000	651,000	249,000	51,200	2,670	5,050
November	211,000	402,000	287,000	645,000	279,000	51,200	2,670	5,050
December	211,000	387,000	287,000	645,000	278,000	51,200	2,670	5,050
1999:								
January	211,000	387,000	287,000	645,000	278,000	51,200	2,670	5,050
February	211,000	387,000	287,000	645,000	278,000	50,700	2,670	5,050
March	211,000	387,000	287,000	645,000	278,000	50,700	2,670	5,050
April	211,000	387,000	287,000	645,000	278,000	50,700	2,670	5,050
May	211,000	387,000	287,000	645,000	278,000	50,700	2,670	5,050

1/ Includes specification and non-specification grade materials and materials set aside for disposal but not yet shipped.
2/ Data are rounded to three significant digits.

Source: Defense National Stockpile Center.

TABLE 3
U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS AND METAL 1/

Period	Chromite ore		Chromium ferroalloys 2/			Chromium metal 3/	
	Gross weight (metric tons)	Value (thousand)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousand)	Gross weight (metric tons)	Value (thousand)
1998:							
April	964	$225	373	219	$369	67	$751
May	3,500	583	572	340	648	67	651
June	37,800	1,720	690	429	721	115	1,370
July	13,800	1,130	437	262	555	70	593
August	16,600	960	985	605	799	89	1,840
September	10,500	523	416	239	407	143	1,440
October	16,500	1,140	656	396	636	106	1,090
November	16,600	1,330	388	231	417	34	594
December	1,240	267	231	130	237	89	1,670
January-December	121,000	9,230	6,610	3,960	6,710	1,040	13,000
1999:							
January	736	239	491	274	405	91	1,370
February	403	126	364	209	350	118	1,290
March	1,600	629	482	290	493	55	731
April	16,800	1,100	462	290	391	190	2,140
January-April	19,500	2,090	1,800	1,060	1,640	455	5,540

1/ Data are rounded to three significant digits; may not add to totals shown.
2/ Includes low-, medium-, and high-carbon ferrochromium, and ferrochromium-silicon.
3/ Includes wrought and unwrought and waste and scrap.

Source: Bureau of the Census.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE,
FERROCHROMIUM, AND CHROMIUM METAL 1/

(Metric tons)

	1998	1999			
	January-December	February	March	April	January-April
Chromite ore:					
Not more than 40% chromic oxide:					
Gross weight	5,310	32	60	20	112
Chromic oxide content	2,120	11	21	7	39
More than 40% but less than 46% chromic oxide:					
Gross weight	89	--	--	--	--
Chromic oxide content	40	--	--	--	--
46% or more chromic oxide:					
Gross weight	352,000	461	44,800	257	78,800
Chromic oxide content	170,000	220	20,800	125	41,300
Total, all grades:					
Gross weight	358,000	493	44,800	277	78,900
Chromic oxide content	172,000	231	20,800	132	41,400
Ferrochromium:					
Low-carbon: 2/					
Gross weight	53,800	4,950	2,930	1,950	16,800
Chromium content	35,400	3,340	2,010	1,350	11,200
Medium-carbon: 3/					
Gross weight	1,370	--	--	--	--
Chromium content	858	--	--	--	--
High-carbon: 4/					
Gross weight	363,000	24,000	48,100	40,100	184,000
Chromium content	204,000	12,300	27,200	27,000	110,000
Total, all grades					
Gross weight	418,000	28,900	51,000	42,100	201,000
Chromium content	240,000	15,700	29,200	28,300	121,000
Chromium metal:					
Other than waste and scrap	9,520	518	663	1,150	2,850
Waste and scrap	6	--	(5/)	--	(5/)
Total, all grades	9,530	518	663	1,150	2,850

1/ Data are rounded to three significant digits; may not add to totals shown.
2/ Ferrochromium containing not more than 3% carbon.
3/ Ferrochromium containing more than 3% carbon but not more than 4% carbon.
4/ Ferrochromium containing more than 4% carbon.
5/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE IN APRIL 1999,
BY GRADE AND BY COUNTRY 1/

	April			January-April		
Country	Gross weight (metric tons)	Cr_2O_3 (metric tons)	Value 2/ (thousands)	Gross weight (metric tons)	Cr_2O_3 (metric tons)	Value 2/ (thousands)
Not more than 40% chromic oxide:						
Canada	--	--	--	52	18	$19
South Africa	20	7	$10	60	21	35
Total	20	7	10	112	39	54
46% or more chromic oxide:						
South Africa	257	125	34	78,800	41,300	5,670
Total, all grades:						
Canada	--	--	--	52	18	19
South Africa	277	132	44	78,900	41,300	5,700
Total	277	132	44	78,900	41,400	5,720

1/ Data are rounded to three significant digits; may not add to totals shown.
2/ Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance and other charges incurred in bringing the merchandise to the United States.

Source: Bureau of the Census.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN APRIL 1999,
BY GRADE AND BY COUNTRY 1/

Country	April			January-April		
	Gross weight (metric tons)	Chromium content (metric tons)	Value 2/ (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value 2/ (thousands)
High-carbon ferrochromium: 3/						
Albania	--	--	--	3,750	2,360	$1,780
China	34	23	$27	4,190	2,480	2,250
India	--	--	--	5,010	3,090	1,930
Kazakhstan	35,700	24,700	16,600	69,400	47,600	32,000
Russia	386	267	220	4,060	2,810	3,180
South Africa	4,000	2,020	1,150	80,200	40,700	25,500
United Kingdom	--	--	--	2	1	2
Zimbabwe	--	--	--	17,700	11,000	9,700
Total	40,100	27,000	18,000	184,000	110,000	76,300
Low-carbon ferrochromium: 4/						
China	--	--	--	560	376	698
Germany	1,050	734	2,130	2,520	1,760	5,280
Japan	20	14	45	159	109	411
Kazakhstan	--	--	--	2,550	1,780	2,030
Russia	763	524	530	6,340	4,310	4,900
South Africa	116	74	218	2,060	1,190	1,560
United Kingdom	--	--	--	41	28	89
Zimbabwe	--	--	--	2,530	1,690	2,170
Total	1,950	1,350	2,920	16,800	11,200	17,100
Total, all grades:						
Albania	--	--	--	3,750	2,360	1,780
China	34	23	27	4,750	2,850	2,950
Germany	1,050	734	2,130	2,520	1,760	5,280
India	--	--	--	5,010	3,090	1,930
Japan	20	14	45	159	109	411
Kazakhstan	35,700	24,700	16,600	71,900	49,300	34,000
Russia	1,150	791	750	10,400	7,120	8,080
South Africa	4,120	2,100	1,360	82,200	41,900	27,000
United Kingdom	--	--	--	43	30	91
Zimbabwe	--	--	--	20,200	12,700	11,900
Total	42,100	28,300	20,900	201,000	121,000	93,400

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance and other charges incurred in bringing the merchandise to the United States.

3/ Ferrochromium containing more than 4% carbon.

4/ Ferrochromium containing not more than 3% carbon.

Source: Bureau of the Census.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN
APRIL 1999, BY GRADE AND BY COUNTRY 1/

Country	April		January-April	
	Gross weight (metric tons)	Value 2/ (thousands)	Gross weight (metric tons)	Value 2/ (thousands)
Waste and scrap:				
Germany	--	--	(3/)	$4
Other than waste and scrap:				
Austria	--	--	(3/)	2
Canada	(3/)	$5	(3/)	8
China	293	1,310	594	2,670
France	555	1,310	1,110	6,290
Germany	6	135	10	269
Italy	(3/)	4	(3/)	4
Japan	3	113	9	313
Netherlands	--	--	8	46
Portugal	(3/)	2	(3/)	2
Russia	177	1,410	534	3,290
Switzerland	--	--	(3/)	21
Taiwan	25	110	52	282
Thailand	--	--	(3/)	2
United Kingdom	86	782	528	4,290
Total	1,150	5,180	2,850	17,500
Total, all grades:				
Austria	--	--	(3/)	2
Canada	(3/)	5	(3/)	8
China	293	1,310	594	2,670
France	555	1,310	1,110	6,290
Germany	6	135	11	273
Italy	(3/)	4	(3/)	4
Japan	3	113	9	313
Netherlands	--	--	8	46
Portugal	(3/)	2	(3/)	2
Russia	177	1,410	534	3,290
Switzerland	--	--	(3/)	21
Taiwan	25	110	52	282
Thailand	--	--	(3/)	2
United Kingdom	86	782	528	4,290
Total	1,150	5,180	2,850	17,500

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance and other charges incurred in bringing the merchandise into the United States.

3/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 8
U.S. TRADE OF STAINLESS STEEL, BY PRODUCT, IN APRIL 1999 1/

Stainless steel product	April Gross weight (metric tons)	April Value 2/ (thousands)	January-April Gross weight (metric tons)	January-April Value 2/ (thousands)
Exports:				
Stainless steel scrap	28,000	$13,600	76,000	$40,400
Ingot	644	2,710	2,510	11,400
Flat-rolled (width > 600mm)	7,130	16,100	26,700	62,100
Flat-rolled (width < 600mm)	5,380	15,200	20,600	55,700
Bars & rods in irregular coils	198	560	504	1,780
Other bars and rods	1,250	6,440	5,040	23,900
Wire	640	3,270	2,220	11,500
Tubes, pipes, & hollow profiles	1,990	8,670	9,120	37,000
Total	45,200	66,600	143,000	244,000
Imports:				
Stainless steel scrap	2,000	1,200	10,000	4,540
Ingot	16,600	15,900	98,600	90,600
Flat-rolled (width > 600mm)	32,900	46,500	111,000	161,000
Flat-rolled (width < 600mm)	2,510	8,030	10,200	33,400
Bars & rods in irregular coils	4,170	7,280	16,100	28,500
Other bars and rods	5,980	13,500	22,800	56,600
Wire	1,380	5,280	6,100	24,800
Tubes, pipes, & hollow profiles	4,380	17,000	20,000	77,200
Total	69,900	115,000	295,000	477,000

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Export value is Free Alongside Ship (FAS). Import value is customs import value, which generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance and other charges incurred in bringing the merchandise to the United States.

Source: Bureau of the Census.